Werk Orde November-19-12	er ID 93409 2 10:01:46 AM			[*932	109*							Page 1
Revision ID:	D350-591-312 Heli-Access-Step, Long	RH		Accept	*N900	040	100)*	Setup	Start Stop	*N:	S1* S2*
Start Date: Required Date: Reference:		Qty: 10.00 Qty: 10.00	*10* *10*		Cust Item I Customer:							
Approvals:	•		Date: 12-11-20	Tooling:		ate:		I	Run	Start Stop	*NI *NI	R1* R2*
Sequence ID/ Work Center II	Operat D Descrip			Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Rejo Qty		Reject Number	Insp. Stamp
Draw Nbr	Revision Nb	r	•									
D3272	Rev B											
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			2									
*110 *11 0 *	Large Fa	b		0.00	ć.			10	4	6		A
Large Fab Large Fab		Memo 1-Bevel end f	for welding FWD ONLY	0.00								12.11.2
		D3272	ort using Jig DT8719, weld inum Rod <u>/32 358</u> /32 399 Plate flush	d Fwd End Plate as per	QSI 004 & Dwg			10	9	b	<u> A</u> e	M 12-11-2 12-12-

NCR:	Yes	/ No				WORK ORD	ER NON-C	ONI	FORN	MANCE / UP	DATE	QA Closed:	Date:	r, •
Vork Ord	er:					DISPO	SITION				AGAINST D	EPARTMENT		
Part	No.						Rework Scrap		1	Skid-tube Aachining	Crosstube Small Fab		Water Jet d. Eng. Coor.	Engineering Quality
NCR	No.					Work Orde	Use-as-is er Updațe			Large Fab	Finishing Composite	Rec/Stor	e/Packaging Supplier	Other
Root					Descr	iption of work ord	der update	lni	itial	Ac	tion	Sign &		
Cause		Date	Step	Qty		or Non-conforma	nce	Chie	ef Eng	Desc	ription	Date	Verification	QC Inspector
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Landi	ng (Gear				Genera	ı				_			
		Bending				Bend			Grain			Ovalized		Pressure/Forced
		Centre No	t Concer	ntric to	o/s	BOM/Route		Пн	lardwa	re	Γ	Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damage	ed	Ir	nspecti	on Incomplete		Part Incorre	ct	Weld
		Crushed/0	Crimped.			Burrs		\prod_{i}	nstructi	ions Incomplete/	'Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
		Cuffs				Contamination		\square	M ainte	nance		Part Moved	<u></u>	-
		Heat Trea	t			Countersink		\square	∕iislabe	led		Positioned V	Vrong	
		Inspection	n Strip in	Tube	Γ	Cut Too Short		\square	∕isread			Power Loss/	Surge	Other
	Г	Ripples in			F	Drill Holes		\Box c	Offset		<u></u>	·		
		Torque W	aves in E	xtrusio	,	Drawing		\Box	Out of C	Calibration				
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		Wave/Tw			F	Folio		\prod_{c}	Dutside	Dimensions				

DQA: Date:

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Work Order ID 93409 Page 2 November-19-12 10:01:46 AM Item ID: D350-591-312 *N900040100* Accept Setup Start **Revision ID:** Stop Heli-Access-Step, Long RH Item Name: *10* **Start Date:** 11/19/12 **Start Oty: 10.00 Cust Item ID:** Required Date: 12/14/12 Req'd Qty: 10.00 **Customer:** Reference: Run Process Plan: Date: Approvais: Tooling: Date: Stop _____ Date: ____ SPC (Y/N): OC: Date: Sequence ID/ Operation **Tool ID** Tool # Plan Reject Set Up/ Accept Reject Insp. **Work Center ID** Qty Qty Number Stamp Description **Run Hours** Code 120 QC9- Inspect visual per QSI004- Fusion Welds 0.00 OAS *120* QC 0.00 Memo Quality Control 130 QC5- Inspect part completeness to step on W/O 0.00 09 1

140

Quality Control

130

Chemical Conversion Coat per QSI005 4.1

0.00

0.00

140 HandFinish

Memo

Memo

0.00

Hand Finishing

(D) 13-13-1J

10 16 12-12-18

									DQA:	Date:)
NCR: Yes	/ No			 WORK ORDER NON-	COI	NFOR	MANCE / UP	DATE	QA Closed:	Date:	5#e
Work Order:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part No.				 Rework Scrap Use-as-is Work Order Update		Thern	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				ption of work order update		nitial	l	tion	Sign &	· · · · · · · · · · · · · · · · · · ·	
Cause	Date	Step	Qty	 or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
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4 y 5 1 1	<u> </u>			 	AUL	T CATE	GORY				:
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Wave/Twist in Tube

Work Orde November-19-12				*932	LN9*						Page 3
Item ID: Revision ID:	D350-591-3	12		Accept	*N900	040	100)* s	Setup Start	*N.	S1*
Item Name:	Heli-Access-S	Step, Long RH							Stop	*N:	S2*
Required Date:	11/19/12 12/14/12	Start Qty: 10.00 Req'd Qty: 10.00	*10 *10		Cust Item I Customer:	ID:					
Reference: Approvals:	Process Pl	an:	Date:	Tooling:	D	ate:		R	Run Start	I <i>Z</i> I	R1*
	QC:		Date:	SPC (Y/N):	D	ate:			Stop	*N	R2*
Sequence ID/ Work Center II)	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 ±4 = 0 ±		QC7-Inspect Chemical C	Conversion Coat	0.00				15	_/		12.12.19
150 QC		Memo		0.00				/D	9		12.12.19
Quality Control											150 11 11
180				0.00						,	
180		Large Fab						10	ϕ	Ao.	12-12-12 12-12-2 4
Large Fab		Memo		0.00					· /	DAR	6
Large Fab		1-Assemble	Leg Assembly as per D	Owg D3272.						23	12.12.24
		2-Leave one	e rivet out until welding	is complete.						89	,
		3-Bevel Aft	end for welding								
		•	r foreign object as per (
		5-Weld Aft A/RAlumin	End Plate as per QSI 00 um Rod_ <i>122.358</i>)4 & Dwg D3272							
		6-Grind End	d Plate flush								

7-Install last rivet as per Dwg.

NCR: Ye	es / No				WORK ORDER NON-	CON	VFORM	MANCE / UPI	DATE		<u>.</u>	·4 •
					i .	· 1				QA Closed:	Date:	
Work Order	·•				DISPOSITION	ı			AGAINST D	EPARTMENT/	PROCESS	;
Work Order	•				Rework	7 		Skid-tube	Crosstube	٦	Water Jet	Engineering
Part No	o .				Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
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NCR No	o.				Work Order Update	11		Large Fab	Composite	1 '	Supplier	
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Root				Descri	ption of work order update	li	nitial	Act	tion .	Sign &		
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Landing	Gear				General	AUL	CAIL	JORT				
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	Centre No	ot Conce	ntric to (o/s	BOM/Route	\vdash	Hardwa	re	.	Over/Under	tolerance	Temperature/Cure
	Crácks				Broken/Damaged	П		on Incomplete	•	Part Incorred	<u> </u>	Weld
	Crushed/0	Crimped.			Burrs	П	,	ions Incomplete/l	Jnclear –	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination	-	Mainte	•		Part Moved	<u> </u>	
	Heat Trea	it			Countersink	П	Mislabe	led		Positioned V	/rong	
	Inspection	n Strip in	Tube		Cut Too Short		Misread	ł		Power Loss/		Other
	Ripples in	Bend			Drill Holes	П	Offset		_		<u></u>	•
Γ	Torque W	aves in E	xtrusior	1	Drawing		Out of 0	Calibration				
	Turning S	equence			Finish		Out of S	Sequence				
Γ	Wave/Tw	ist in Tul	oe .		Folio	П	Outside	Dimensions				

DQA:

Date:

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Orde				*934	109*						Page 4
tem ID: Revision ID:	D350-591-31	2		Accept	*N900	04010	N *	Setup	Start		S1*
tem Name:	Heli-Access-St	tep, Long RH							Stop	*N.	S 2*
Start Date: Required Date: Reference:	11/19/12 12/14/12	Start Qty: 10.00 Req'd Qty: 10.00	*10* *10*		Cust Item I Customer:	ID:					
Approvals:	Process Pla	n:	Date:	Tooling:	D	ate:		Run	Start	*NI	R 1*
•				SPC (Y/N):	D	ate:			Stop	*N!	R2*
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool # Plan Code	Accep Qty	ot Rej Qty	•	Reject Number	Insp. Stamp
190		QC10- Inspect visual per	QSI004- ground welds	0.00			, _				DAS
1 QO QC Quality Control		Мето		0.00			10	_ Ø	<u></u>	12-12-2	O 18
²⁰⁰ *ク∩∩* ^{OC}		QC5- Inspect part comple	eteness to step on W/O	0.00)))		10			· .	· · · · · · · · · · · · · · · · · · ·
Quality Control		Memo		o.oo <i>o</i> ,	12 00						e. 12
²¹⁰ *210*		Chemical Conversion Co	oat per QSI005 4.1	0.00			1 ^	QИ		JU_	
HandFinish		Memo		0.00			10	_1127(<u> </u>	— / /	ulat 20

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210
HandFinish

Hand Finishing

										DQA:	Date:	· · · · · · · · · · · · · · · · · · ·
NCR:	Yes	/ No			WORK ORDER NON-C	ON	NFORM	MANCE / UPDATE		QA Closed:	Date:	¥ ₄ · .∗ ₂
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Root Cause		Date	Step	Qty	ption of work order update or Non-conformance	1	nitial ief Eng	Action Description		Sign & Date	Verification	QC Inspector
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QC

Quality Control

Nork Order: Part No.													DQA:	Date	: •
Vork Order: Part No. NCR No. Rework Scrap Use-as-is Work Order Update Cause Date Step Qty Description of work order update or Non-conformance Cause Date Step Qty Or Non-conformance Cause Date Step Qty Organization of work order update or Non-conformance Cause Date Step Qty Organization of work order update or Non-conformance Cause Date Step Qty Organization of work order update or Non-conformance Cause Date Step Qty Organization Organization Cause Date Step Qty Organization Organization Cause Date Step Qty Organization Organization Cause Date Step Qty Organization Cause John Step Qty Organization Maintenance Part toorder John Step Qty Organization Missead Prostored Temperature/Cure Part Moved Prod. Eng. Coor. Quality Date of Smile Smile Smile Organization Missead Prod. Eng. Coor. Quality Date of Smile Smile Smile Smile Smile Smile Smile Organization Date Verification QC Inspector Operation Organization Operation Operation Operation Operation Operation Operation Operation Operation Operation Operation Operation Opera	NCR:	Yes	/ No					WORK ORDER NON-C	O	NFOR	MANCE / UP	DATE	•		· •
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Part No. Scrap Use-as-is Work Order Update Use-as-is Use-as-as-is Use-as-is	Nork Ord	er:						DISPOSITION				AGAINST DI	PARTMENT	PROCESS	
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Cause Date Step Qty or Non-conformance Chief Eng Description Date Verification QC Inspector Doc/Data Upil/Proling Derivator Chief Eng Description Date Verification QC Inspector Date Verifi	NCR	No.			·]	, , , , ,		~ ⊢] (100)		
Comparison Com	Root					Desc	rip	tion of work order update		nitial	Act	tion	Sign &		
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Ripples in Bend Drill Holes Offset Out of Calibration			1		Tube	T	-						-		Other
Torque Waves in Extrusion Drawing Out of Calibration			1		-	F						<u> </u>	J. 5c. 2033/		
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1 framing sequence 1 framin 1 fout of sequence		\vdash	1			r	—₹	Finish							

Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

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NCR:	Yes	/ No					WORK ORDER NON-	COI	VFOR	MANCE / UP	DATE			*	
												QA Closed:	Date	2:	
Work Ord	er:						DISPOSITION				AGAINST DE	EPARTMENT,	/PROCESS		
5 .							Rework			Skid-tube	Crosstube	_	Water Jet	Engineering	_
Part	No.						Scrap	4		Machining	Small Fab	-	d. Eng. Coor.	Quality	
NCR	No.			,			Use-as-is Work Order Update		Thern	noforming Large Fab	Finishing Composite	Rec/Stor	re/Packaging Supplier	Other	
Root					Des	cri	otion of work order update	T	nitial	Ac	tion	Sign &			
Cause		Date	Step	Qty			or Non-conformance		ief Eng		ription	Date	Verification	QC Inspect	tor
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		Cracks					Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct _	Weld	
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		Ripples in					Drill Holes		Offset						
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Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 93409 Page 7 November-19-12 10:01:46 AM Item ID: D350-591-312 Accept *N900040100* Setup Start **Revision ID:** Stop Heli-Access-Step, Long RH Item Name: *10* **Start Date:** 11/19/12 **Start Qty: 10.00 Cust Item ID:** Required Date: 12/14/12 Req'd Qty: 10.00 *10* **Customer:** Reference: Run Tooling: Approvals: Process Plan: Date: Date: Stop SPC (Y/N): Date: _____ Date: Sequence ID/ Tool # Plan Reject **Operation** Tool ID Reject Insp. Set Up/ Accept **Work Center ID** Description Run Hours Code Qty Qty Number Stamp 280 QC21- Final Inspection - Work Order Release 0.00 *280* 0.00 MF 12-12-28 Memo Quality Control

												DQA:	Date	e: _	•
NCR:	Yes	/ No					WORK ORDER NON-C	100	NFOR	MANCE / UPDATE				_	
												QA Closed:	Date	e:	*
Nork Ord	er:						DISPOSITION			AGAINST	DE	PARTMENT	PROCESS		
Part NCR				-			Rework Scrap Use-as-is Work Order Update			Skid-tube Crosstube Machining Small Fab noforming Finishing Large Fab Composite		4	Water Jet d. Eng. Coor. re/Packaging Supplier		Engineering Quality Other
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Root Cause		Date	Step	Qty	Desc		otion of work order update or Non-conformance	ļ	nitial iief Eng	Action Description		Sign & Date	Verification		QC Inspector
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	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion						Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		1	ion Incomplete ions Incomplete/Unclear enance eled		Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ssing Vrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	L	Torque W	aves in E	xtrusio	۱ [Drawing		Out of 0	Calibration					
	L	Turning Se	equence	7			Finish		Out of S	Sequence					

Wave/Twist in Tube

November-19-12 10:01:44 AM

Work Order ID:

93409

Parent Item:

D350-591-312

Parent Item Name:

Heli-Access-Step, Long RH

Start Date: 11/19/12

Required Date: 12/14/12

Start Qty: 10.00

Required Qty: 10.00

Comments:

IPP Rev:A04.03.22New issue KJ/RF

IPP Rev:B 07-06-09 Added D3572-1 JLM

IPP Rev:C 08-04-02 ECN1163 DD verified by:EC

IPP Rev:D 08-04-08 ECN1164 DD verified by:eC

10.04.28 verified by:EC

IPP Rev:D fixe route seq in bom DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3272-1 Step		Manufactured	No			110	Each	11.0000	1	10	A	12/1	1/26.7
				Location WA 59184 9308		Loc Oty 11 10	<u>Lo</u>	oc Code	<u>[(</u>				
D3067-1 End Plate		Manufactured	No	9300	00	110	Each	123.0000	1	10	5 ft.	D. 17	98 .
				Location		Loc Qty	<u>Lo</u>	oc Code					
				WA		119							
				7860		4							
				8385		. 1							
				9017		1							
				9033		10 43				7/2			
				9048		60				ر			
				WA016		4							
				6758	32	2							
				6821		1							
				7960		1							

NCR:	Yes	/ No				WORK ORDER NON-	100	NFORM	MANCE / UP	DATE	•		
											QA Closed:	Date:	*
Work Ord	er:					DISPOSITION	_			AGAINST DE	PARTMENT	PROCESS	_
						Rework]		Skid-tube	Crosstube		Water Jet	Engineering
Part I	No.					Scrap	- 1		Machining	Small Fab	-1	d. Eng. Coor.	Quality
NCR I	No.		 			Use-as-is Work Order Update			noforming Large Fab	Finishing Composite	Rec/Stor	e/Packaging Supplier	Other
Root					Descri	iption of work order update	T	nitial	Ac	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
oc/Data							T		-				
quip/Tooling											ļ		
perator							1						
1aterial	_			,					:				
etup	_										!		
ther													
rocess							İ						
upplier													
raining						-							
napproved													
						<u></u>	AUL	T CATE	GORY				
Landi	ng (Gear				General		-			_		_
	L	Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to (o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorred	et	Weld
		Crushed/0	Crimped.			Burrs		Instruct	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		_
	Г	Heat Trea	t			Countersink		Mislabe	eled		Positioned V	Vrong	
	Γ	Inspection	n Strip in	Tube		Cut Too Short		Misread	i		Power Loss/	Surge	Other
		Ripples in	Bend			Drill Holes		Offset		L	-	_	
		Torque W	aves in E	xtrusio	n	Drawing		Out of 0	Calibration				
		Turning Se	equence			Finish		Out of S	Sequence				
		Wave/Tw	ist in Tub	oe .		Folio		Outside	Dimensions				•

DQA:

Date:

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

November-19-12 10:01:44 AM

Work Order ID: 93409 Required Date: 12/14/12 Parent Item: D350-591-312 **Start Date:** 11/19/12 Required Qty: 10.00 Parent Item Name: Heli-Access-Step, Long RH **Start Qty: 10.00** D3219-1 No 110 Each 194.0000 2 Manufactured Plate Location Loc Oty Loc Code WA 176 108 89966 89967 40 90704 28 WA016 18 73410 12 77674 6 Ae 12-12-18 D3066-1 No 180 Each 141.0000 20 Manufactured Spacer Location Loc Qty Loc Code WA 141 90346 21 90347 60 60 92567 MS20600-AD4W4 180 1,794.0000 160 Purchased No Each Rivets Loc Code Location Loc Qty 321 18 18 121652 ST311 1508 508 123021 123525 1000 ST321 268 121011 9 121340 39

220

121444

NCR:	⁄es	/ No				WORK ORDER NON	-coi	VFORM	MANCE / UPDATE		· -		7
										Q/	A Closed:	Date:	•
Nork Orde	er: _		··· · · · · · · · · · · · · · · · · ·			DISPOSITION	_			ST DEPA	RTMENT/	PROCESS	
Part N	No					Rework Scrap Use-as-is		Skid-tube Crosstube Machining Small Fab Thermoforming Finishing				Water Jet d. Eng. Coor. e/Packaging	Engineering Quality Other
NCR N	No					Work Order Update		Large Fab Composite				Supplier	
Root					Desc	cription of work order update		Initial	Action		Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	nief Eng	Description		Date	Verification	QC Inspector
oc/Data quip/Tooling perator faterial etup other rocess upplier raining													
паррточец	Ш.	 	I	L	<u> </u>	· · · · · · · · · · · · · · · · · · ·	FΔUI	T CATE	GORY	L			
Landi	ng G	ear				General			<u> </u>				
	Bending Centre Not Concentric to O/S Cracks Broken/Damaged Burrs Cuffs Contamination Countersink Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence BoM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing Finish							Instruct Mainte Mislabe Misread Offset Out of (on Incomplete ions Incomplete/Unclear enance eled d	Pa Pa Pa Pa	valized ver/Under art Incorrec art Lost/Mi art Moved ositioned W ower Loss/	ct ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	l ľ	Turning So	eauence			Finish	- 1	10ut of 9	Seauence				

DQA:

Date:

Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

November-19-12 10:01:45 AM

Work Order ID:	93409							
Parent Item:	D350-591-312					Start	Date: 11/19/12	Required Date: 12/14/12
Parent Item Name:	Heli-Access-Step, Long RH					Star	t Qty: 10.00	Required Qty: 10.00
D3065-041	Manufactured	No		180 E	ach	12.0000	1, 1	0 20-710-
Step Leg Assembly Hi							Ac 12-12-19	090719-
			Location	Loc Oty	Lo	oc Code	AC 82-101-11	B 90296
			WA	12				
			66149	0				
			79336	1				
			90012	11				17
D3067-1 End Plate	Manufactured	No		180 E	ach	123.0000	1 1	0 /2/12.19
End Plate			<u>Location</u>	Loc Qty	Lo	oc Code	Ar who, resides	en en en en en en en en en en en en en e
			WA	119				
•			78608	4				
			83855	1				
			90178	1				
			90335	10				
			90336	43				
			90486	60			10	
			WA016	4				•
			67582	2				
			68214	1				
			79607	1				
ANS-35A Bolt	Purchased	No		250 E	ach	140.0000	2	3-Q-6102°
			Location	Loc Qty	<u>L</u> c	oc Code		- SP 10 - 1 - C
			FG	10				
			122800	10				
			ST353	130				
			123352	80				
			123525	50				

NCR: Y	'es / No				WORK ORDER NON-CONFORMANCE / UPDATE							
					<u> </u>	-				QA Closed:	Date:	1
Work Orde	\r.				DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
WOIK Orde					Rework	7 		Skid-tube	Crosstube	7	Water Jet	Engineering
Part N	ln				Scrap	1 1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
, are r					Use-as-is	┪┃		noforming	Finishing		e/Packaging	Other
NCR N	10.				Work Order Update	1		Large Fab	Composite		Supplier	
								, <u> </u>				
Root				Descri	ption of work order update		Initial Action			Sign &		
Cause	Date	Step	Qty		or Non-conformance	ef Eng	Descr	iption	Date	Verification	QC Inspector	
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quip/Tooling												
perator	_											
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etup												
Other					•							·
rocess	_	İ										
upplier												
raining	_			1								
Inapproved		<u> </u>	<u>l</u>				r CATE	CORY		1.		<u> </u>
Landie	ng Gear				General F	AUL	CATE	JURY				
Lanun	Bending				Bend		Grain		Γ	Ovalized		Pressure/Forced
	→	lot Conce	ntric to (_{2/5}	BOM/Route	\vdash	Hardwa	re	-	Over/Under	tolerance	Temperature/Cure
	Cracks	iot conce		⁵ , 5	Broken/Damaged	-		on Incomplete	-	Part Incorred		Weld
		/Crimped		-	Burrs	\vdash	•	ions Incomplete/U	Inclear	Part Lost/Mi		Wrong Stock Pulled
	Cuffs	,	•		Contamination	-	Mainte	•		Part Moved]
	Heat Tre	at			Countersink	-	Mislabe		-	Positioned V	Vrong	
	Inspection	Tube		Cut Too Short	-	Misread			Power Loss/		Other	
Ì			Drill Holes	\vdash	Offset			······································	· <u>L</u>			
ļ	,	Drawing	П	Out of 0	Calibration							
	Turning	Sequence			Finish		Out of S	Sequence				

DQA:

Date:

Wave/Twist in Tube

November-19-12 10:01:45 AM

Work Order ID: 93409 Required Date: 12/14/12 Parent Item: D350-591-312 **Start Date:** 11/19/12 Required Qty: 10.00 Heli-Access-Step, Long RH Start Qty: 10.00 Parent Item Name: 250 272.0000 No Each Manufactured 20 Mounting Lug Location Loc Qty Loc Code ST470 272)Ox 100 89155 90002 76 92286 96 D3278-041 N 250 91.0000 Manufactured No Each Loc Oty Location Loc Code ST410 11 89974 11 ST470 80 89973 40 90283 20 90706 20 19/23900 Sp AN960JD416 NAS1149D0463J No 250 Each 29.0000 Purchased On Washe Location Loc Qty Loc Code ST351 29 116289 8 119097 21 NAS1149D0563J No 250 Each 2.0000 Purchased Loc Oty Location Loc Code ST338 2 2 1069059

Purchased

No

Location

123525

ST338

Each

200.0000

Loc Code

250

Loc Qty

200 200

										DQA:	Date:			
NCR:	, a													
										QA Closed:	Date:			
Nork Ord	er:					DISPOSITION			AGAINST	DEPARTMENT	/PROCESS			
Part	No.		······································			Reworl Scra _l Use-as-i	p s	Therm	Skid-tube Crosstube Machining Small Fab noforming Finishing	Pro	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other		
NCR	No.					Work Order Update	e		Large Fab Composite		Supplier			
Root		į			Desc	ription of work order upda	te I	nitial	Action	Sign &				
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Description	Date	Verification	QC Inspector		
oc/Data	L													
quip/Tooling	L													
perator	L													
laterial	Ŀ	:	١.											
etup	$ldsymbol{le}}}}}}$						ļ							
ther	<u> </u>											-		
rocess														
upplier	<u> </u>													
raining		·												
napproved														
							FAUL	T CATE	GORY					
Land	ng (7			<u></u>	General					_	٦		
	<u> </u>	Bending			_	Bend		Grain		Ovalized		Pressure/Forced		
	<u> </u>	Centre No	ot Concer	ntric to (D/S	BOM/Route		Hardwa		Over/Under	<u> </u>	Temperature/Cure		
	_	Cracks			-	Broken/Damaged			on Incomplete	Part Incorre		Weld		
	<u> </u>	Crushed/	Crimped.			Burrs	-		ions Incomplete/Unclear	Part Lost/M	issing	Wrong Stock Pulled		
	<u></u>	Cuffs			L	Contamination	-	Mainte		Part Moved	•			
	\vdash	Heat Trea				Countersink		Mislabe	led	Positioned \	_	7		
	$oxed{oxed}$	Inspection		Tube		Cut Too Short		Misreac	1	Power Loss/	'Surge	Other		
	<u> </u>	Ripples in	Bend		L	Drill Holes		Offset						
		Torque W	aves in E	xtrusior	1 <u> </u>	Drawing		Out of 0	Calibration					
		Turning S	equence			Finish		Out of S	equence					

Wave/Twist in Tube

Picklist Print November-19-12 1								Page 5
Work Order ID:	93409							
Parent Item:	D350-591-312					Start	Date: 11/19/12	Required Date: 12/14/12
Parentiltem Name:	Heli-Access-Step, Long RH					Star	t Qty: 10.00	Required Qty: 10.00
D2618 Bushing	Manufactu	ıred ^{No}		250	Each	42.0000	3	20
			Location	Loc Qty		Loc Code		41 V RS4777
			ST013	42				7101010
			76130	2				_
			84646	3				=
			92530	37			-/(0)	
D2230-3	Manufactu	ired No	•	250	Each	476.0000	4	40
Lug								
			Location	Loc Qty		Loc Code		
			FG	4				_
			89045	4				•
			ST469	472				_
			89082	5				_
			89782	19				_
			89950	200			<i></i>	(
			90514	48			- C	_
			92287	200			<u> </u>	_
D2856-400 Abrasion Strip	Manufacti	ured No		250	f	341.8539	1.2	12 8017-19-5
			Location	Loc Qty		Loc Code		_ ,
	•		ST408	341.8539				
5	(٨٥.		63735	0.6696				

Location	Loc Qty	Loc Code
ST408	341.8539	
63735	0.6696	
68076	0.3149	
71164	8.46	
81875	6.398	
86905	0.9569	
89352	109.0545	
90764	216	

											DQA:	Date:	•
NCR:	Yes	/ No				WORK ORDER NON-	100	NFOR	MANCE / UP	DATE			,
						Y					QA Closed:	Date:	· · · · · · · · · · · · · · · · · · ·
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part I	No.					Rework Scrap Use-as-is Work Order Update			Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Large Fab Composite			Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root		·			Descri	ption of work order update		nitial	Act	tion	Sign &		
Cause		Date	Step	Qty	C	or Non-conformance	Ch	ief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling			1										
Operator						•							
Material	Ш											:	
Setup	Ш						1						
Other	Ш												
Process				ļ									
Supplier													
Training .													
Unapproved			<u> </u>				<u> </u>						
						F.	AUL	T CATE	GORY				
Landi	ng G	Sear				General	_	ī			-		
	\vdash	Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure

Inspection Incomplete

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Instructions Incomplete/Unclear

Part Incorrect

Part Moved

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Weld

Other

Wrong Stock Pulled

Broken/Damaged

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Burrs

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Cracks

Cuffs

Heat Treat

Crushed/Crimped.

Inspection Strip in Tube

Torque Waves in Extrusion

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November-19-12 10:01:45 AM

Work Order ID:

93409

Parent Item:

MS21042L3

D350-591-312

Parent Item Name:

Heli-Access-Step, Long RH

Purchased

No

Start Date: 11/19/12

Required Date: 12/14/12

Required Qty: 10.00



	Location	Loc Oty	Loc Code	, · ·
	316	501		<u> </u>
	122452	501		
	ST300	225		
	117885	32		
	119017	55		****
	119075	138		
	ST314	1138		
	123265	1138		_
	ST317	321		
	122141	321		
Purchased	No	250 Ea	ech 935.0000	86

250

Each

Location	<u>1</u>	Loc Oty	Loc Code
FG		20	
	122808	20	
ST356		450	
	123525	450	
ST513		465	
	120187	19	
	120770	12	
	121652	1	
	122063	1	
	122416	10	
	122808	2	
	122993	420	

												DQA:	Date	:	
NCR:	⁄es	/ No													
									QA Closed: Date:						
Work Orde	er:					ĺ	DISPOSITION				AGAINST DE	PARTMENT	/PROCESS		
							Rework			Skid-tube	Crosstube		Water Jet	En	gineering
Part I	١o.						Scrap		Machining Small Fab			Prod. Eng. Coor.			Quality
							Use-as-is			noforming	Finishing	Rec/Stor	e/Packaging		Other
NCR f	No.	<u> </u>					Work Order Update]		Large Fab	Composite]	Supplier		
Root					Desc	rip	tion of work order update		nitial	Ac	tion	Sign &		1	
Cause		Date	Step	Qty		0	r Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	(QC Inspector
oc/Data					-										
quip/Tooling															
perator															
Material															
etup			ļ											ļ	
ther														1	
rocess								Ì						1	
upplier													į		
raining					=									ļ	
Inapproved		<u> </u>													
								AUL	T CATE	GORY					
Landi	ng (1			_	_	General		,			7	_	_	
		Bending					Bend		Grain			Ovalized		Pres	ssure/Forced
		Centre No	t Concer	ntric to (o/s	→	BOM/Route		Hardwa	_	_	Over/Under	tolerance	_	perature/Cure
		Cracks Broken/Damaged							1	on Incomplete		Part Incorre	ct _	Wel	
		Crushed/Crimped. Burrs							Instruct	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wro	ong Stock Pulled
		Cuffs			<u></u>	-1	Contamination		Mainte			Part Moved			
		Heat Trea			L	⊣	Countersink		Mislabe	led	_	Positioned V		_	
		Inspection	•	Tube	<u>_</u>	_	Cut Too Short		Misread	l		Power Loss/	Surge	Oth	er
		Ripples in	Bend			╝	Drill Holes		Offset						
	Torque Waves in Extrusion Drawing								Out of (Calibration					
		Turning Se	equence				Finish		Out of S	equence					

Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print November-19-12 1											Pag
Work Order ID: Parent Item: Parent Item Name:	93409 D350-591-312 Heli-Access-Step, I	∟ong RH							Date: 11/19/12 Qty: 10.00		Required Date: 12/14/12 Required Qty: 10.00
MS21042L5 Nut		Purchased	No			250	Each	1,017.0000	2	20	SP.
eO				Location	<u>1</u>	Loc Qty		Loc Code	•		
				300		29					
					121652	29					
				314		908					
					122452	908			_ _	$\Delta \chi$	
				ST300		80					,
					108827	4					
					116105	1					
					116548 119109	43 20					
					2937	12					
MS21042L4 Nut		Purchased	No			250	Each	5,028.0000	889	80	<i>S</i> ⟨ ·
				Location	<u>n</u>	Loc Qty		Loc Code			
				314		244					
					122452	244					
				ST300		20					
					119017	20				<u> </u>	
				ST314		4764				Ph.	
					123021	2264			_8	<u> </u>	
					123248	900					
ANYGOJDIO	NAS1149D0363J	Purchased	No		123355	1600 250	Each	0.0000		 40.	0177310
Washer											1100) 18
										~	00-0
										رب	アノサンけん

November-19-12 10:01:46 AM

Shop Packet Print

Page 7

	ICR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE												Date	
NCR: Y	'es	/ No					WORK ORDER NON-C	Or	NFORM	MANCE / UP	DATE	QA Closed:	Date	•
Work Orde	r:						DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
Part N	•		•			Rework Scrap Use-as-is Work Order Update			Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Large Fab Composite			4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root Cause		Date	Step	Qty	Descr	ription of work order update or Non-conformance			nitial ief Eng		tion ription	Sign & Date	Verification	QC Inspector
oc/Data quip/Tooling perator Material etup ther rocess upplier raining														
							F	AUL	T CATE	GORY				
Landir	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence Wave/Twist in Tube						General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing Finish		Instruct Mainte Mislabe Misread Offset Out of (on Incomplete ions Incomplete/ enance eled	'Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct issing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
		Wave/Twi	ist in Tub	e		ا	Folio		Outside	Dimensions				

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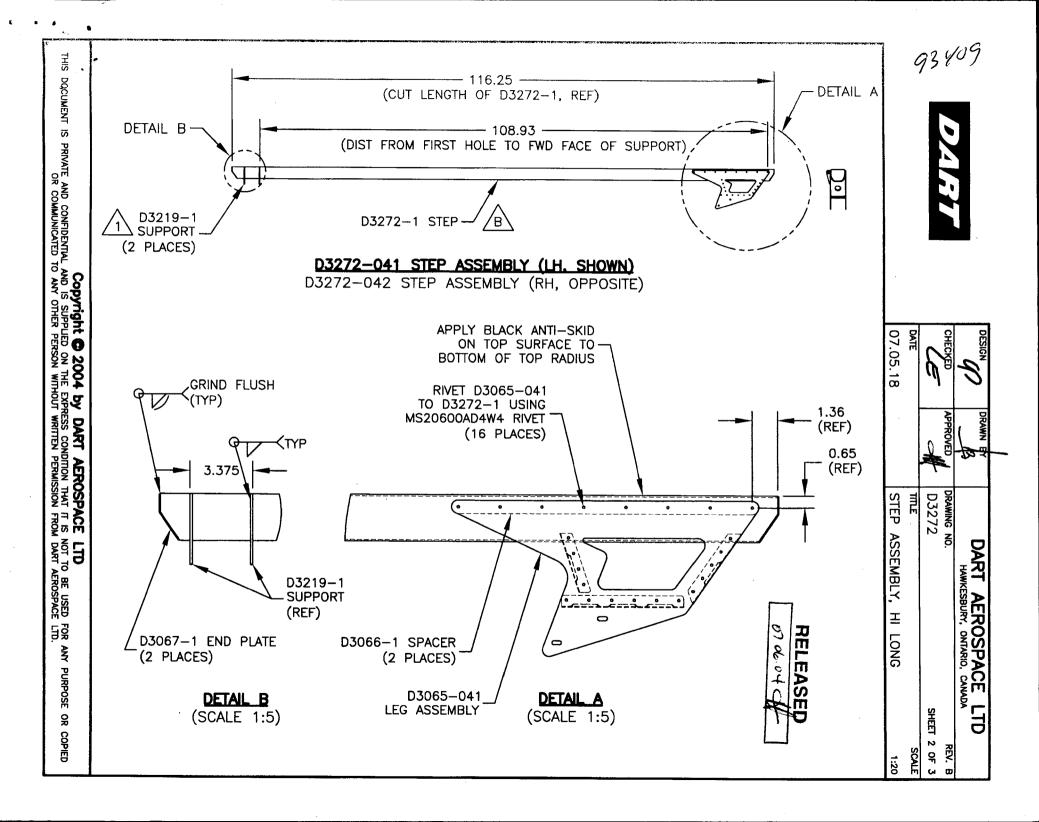
	DESIGN		DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
	CHEC	SED	APPROVED,	DRAWING NO.		REV. B	
	(E	世	D3272	SHEET	1 OF 3	
ŀ	DATE			TITLE		SCALE	
	07.0	5.18		STEP ASSEMBLY, HI LONG		NTS	
	Α		04.03.01	NEW ISSUE			
	В		07.05.18	D3272-1 WAS D2622-120			

QTY	QTY						
-041	-042	PART NUMBER	DESCRIPTION				
Х		D3272-041	STEP ASSEMBLY, HIGH LONG (LH)				
	Х	D3272-042	STEP ASSEMBLY, HIGH LONG (RH)				
1	1	D3065-041	LEG ASSEMBLY				
2	2	D3066-1	SPACER				
2	2	D3067-1	END PLATE				
2	2	D3219-1	SUPPORT				
1	1	D3272-1	STEP				
16	16	MS20600AD4W4	RIVET				

GENERAL NOTES:

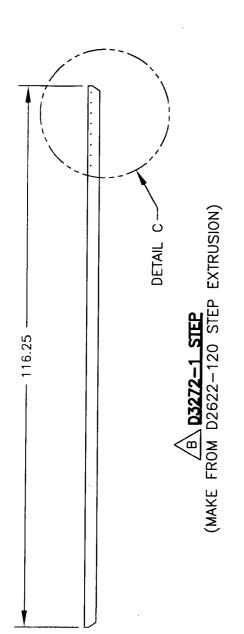
- D3272-041 SHOWN. FOR D3272-042, INSTALL D3219-1 SUPPORT OPPOSITE SIDE
- 2) WELD PER DART QSI 004
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005.4.1 POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 5) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX.

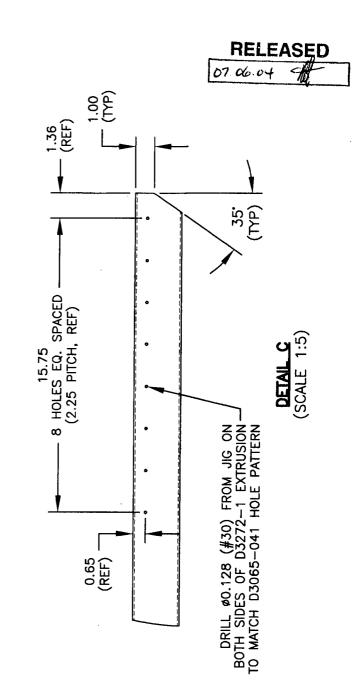
UNCONTA - LED COPY SUBJECT TO ANS REDIGENT





DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
CHECKED	APPROVED	DRAWING NO.	REV. B		
LE		D3272	SHEET 3 OF 3		
DATE		TITLE	SCALE		
07.05.18		STEP ASSEMBLY, HI LONG	1:20		





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D350-591 Page 23 of 23

Qty	Qty	Qty	Qty	Qty	Qty	Qty	_Cty~		Description
-211	-212	-213	-214	-215	-216	-311	-312		
Х							2250	D350-591-211	Heli-Access-Step™, Long Step – High Skid, LH
	- х							D350-591-212	Heli-Access-Step™, Long Step – High Skid, RH
		Х						D350-591-213	Heli-Access-Step™, Short Step – High Skid, LH
			Х					D350-591-214	Heli-Access-Step™, Short Step – High Skid, RH
				Х				D350-591-215	Heli-Access-Step™, Short Step – Low Skid, LH
					Х			D350-591-216	Heli-Access-Step™, Short Step – Low Skid, RH
						Х	1	D350-591-311	Heli-Access-Step™, Long Step – High Skid, LH
							X	D350-591-312	Heli-Access-Step™, Long Step – High Skid, RH
1								D3070-041	STEP ASSEMBLY (HIGH-LONG, LH)
	1							D3070-042	STEP ASSEMBLY (HIGH-LONG, RH)
		1						D3078-041	STEP ASSEMBLY (HIGH-SHORT, LH)
			1					D3078-042	STEP ASSEMBLY (HIGH-SHORT, RH)
				1				D3168-041	STEP ASSEMBLY (LOW-SHORT, LH)
					1			D3168-042	STEP ASSEMBLY (LOW-SHORT, RH)
						1		D3272-041	STEP ASSEMBLY (HIGH-LONG, LH)
							1	D3272-042	STEP ASSEMBLY (HIGH-LONG, RH)
4	4							D2182B035	RUBBER CUSHION
		2	2	2	2			D2230-1	MOUNTING LUG
		2	2	2	2	4	14	D2230-3	MOUNTING LUG
8	8		_=_				Contract	D2274	RADIUS BLOCK
<u> </u>						2	2	D2618 7	BUSHING
4	4	4	4	4	4			D2732-030	CUSHION
2	2	1	1	1	1	2	2-	-D2856-400=720	ABRASION STRIP
_2	2	 -	- · ·	<u> </u>	<u> </u>			D3064-1	CLAMP
1	1							D3079-041	SUPPORT ASSEMBLY
4	4							D3080-1	CLAMP
						2	1/2	D3235-1	MOUNTING LUG
						1	171	D3278-041 *** /	SUPPORT ASSEMBLY
2	2	2	2	2	2	2	L 2,	AN3-35A	BOLT
10	10	2	2	2	2			AN4-11A	BOLT
		4	4	4	4	8	1/8	AN4-13A 7	BOLT
						2	<u></u>	-AN5-36A	BOLT
4	4	4	4	4	4	4	4 °s	AN960JD10	*WASHER
20	20	12	12	12	12	16	Z _16	_AN960JD416	- *WASHER
						4	4-	AN960JD516	
2	2	2	2	2	2	2	/ 2	_MS21042L3	דטער"
10	10	6	6	6	6	8	/ 8	MS21042L4	7 NUT
	- · •			T		2	72	MS21042L5	TUNT
		 				1	1	*DSI 9410-011	STEP MODIFICATION KIT

*DSI 9410-011 Step Modification Kits are provided with all D350-591-311 and D350-591-312 Steps. This kit is provided as an option for the installer and is therefore **NOT REQUIRED** to complete the installation of the D350-591-311 or D350-591-312 Steps. Refer to Figure 21 for installation of the DSI 9410-011 Kit.